

Recovery Plan Action Status

Plan Name: Recovery Plan for Serpentine Soil Species of the San Francisco Bay Area

Plan Status: Final

Plan Date: 30-Sep-98

Lead Agency: USFWS

Lead Office: Sacramento Fish And Wildlife Office

(916)

414-6600)

Species	Action Priority #	Action #	Action Description	Action Status	Est. Initiation Date	Est. Completion Date	Responsible Parties	Work Type	Labor Type	Action Comments
Bay checkerspot butterfly (Euphydryas editha bayensis), Tiburon mariposa lily (Calochortus tiburonensis), Metcalf Canyon jewelflower (Streptanthus albidus ssp. albidus), Pennell's bird's-beak (Cordylanthus tenuis ssp. capillaris), San Mateo woolly sunflower (Eriophyllum latilobum), Coyote ceanothus (Ceanothus ferrisiae), White-rayed pentachaeta (Pentachaeta bellidiflora), Presidio clarkia (Clarkia franciscana), Fountain thistle (Cirsium fontinale var. fontinale), Tiburon paintbrush (Castilleja affinis ssp. neglecta), Marin dwarf-flax (Hesperolinon congestum), Tiburon jewelflower (Streptanthus niger), San Mateo thormint (Acanthomintha obovata ssp. duttonii), Santa Clara Valley dudleya (Dudleya setchellii)	2	1.1	Establish cooperative programs with participants from the public and private sector	Ongoing Not Current	FY 1995 - FY 1999		U.S. Fish and Wildlife Service, California Department of Fish and Game	Other: Information and Education	Internal Technical Assistance	Cooperative program established with Stuart Weiss and San Mateo Parks for reintroduction of Bay Checkerspot into Edgewood Park.

Species	Action Priority #	Action #	Action Description	Action Status	Est. Initiation Date	Est. Completion Date	Responsible Parties	Work Type	Labor Type	Action Comments
Bay checkerspot butterfly (<i>Euphydryas editha bayensis</i>), Tiburon mariposa lily (<i>Calochortus tiburonensis</i>), Metcalf Canyon jewelflower (<i>Streptanthus albidus</i> ssp. <i>albidus</i>), Pennell's bird's-beak (<i>Cordylanthus tenuis</i> ssp. <i>capillaris</i>), San Mateo woolly sunflower (<i>Eriophyllum latilobum</i>), Coyote ceanothus (<i>Ceanothus ferrisiae</i>), White-rayed pentachaeta (<i>Pentachaeta bellidiflora</i>), Presidio clarkia (<i>Clarkia franciscana</i>), Fountain thistle (<i>Cirsium fontinale</i> var. <i>fontinale</i>), Tiburon paintbrush (<i>Castilleja affinis</i> ssp. <i>neglecta</i>), Marin dwarf-flax (<i>Hesperolinon congestum</i>), Tiburon jewelflower (<i>Streptanthus niger</i>), San Mateo thormmint (<i>Acanthomintha obovata</i> ssp. <i>duttonii</i>), Santa Clara Valley dudleya (<i>Dudleya setchellii</i>)	2	1.2.1	Develop and implement outreach plans	Not Started			U.S. Fish and Wildlife Service	Other: Information and Education	Internal Technical Assistance	

Species	Action Priority #	Action #	Action Description	Action Status	Est. Initiation Date	Est. Completion Date	Responsible Parties	Work Type	Labor Type	Action Comments
Bay checkerspot butterfly (<i>Euphydryas editha bayensis</i>), Tiburon mariposa lily (<i>Calochortus tiburonensis</i>), Metcalf Canyon jewelflower (<i>Streptanthus albidus</i> ssp. <i>albidus</i>), Pennell's bird's-beak (<i>Cordylanthus tenuis</i> ssp. <i>capillaris</i>), San Mateo woolly sunflower (<i>Eriophyllum latilobum</i>), Coyote ceanothus (<i>Ceanothus ferrisiae</i>), White-rayed pentachaeta (<i>Pentachaeta bellidiflora</i>), Presidio clarkia (<i>Clarkia franciscana</i>), Fountain thistle (<i>Cirsium fontinale</i> var. <i>fontinale</i>), Tiburon paintbrush (<i>Castilleja affinis</i> ssp. <i>neglecta</i>), Marin dwarf-flax (<i>Hesperolinon congestum</i>), Tiburon jewelflower (<i>Streptanthus niger</i>), San Mateo thormmint (<i>Acanthomintha obovata</i> ssp. <i>duttonii</i>), Santa Clara Valley dudleya (<i>Dudleya setchellii</i>)	2	1.2.2	Develop and implement economic and other incentives	Ongoing Not Current	FY 1995 - FY 1999		U.S. Fish and Wildlife Service, California Department of Fish and Game, Private landowners	Other	Internal Technical Assistance	

Species	Action Priority #	Action #	Action Description	Action Status	Est. Initiation Date	Est. Completion Date	Responsible Parties	Work Type	Labor Type	Action Comments
Bay checkerspot butterfly (<i>Euphydryas editha bayensis</i>), Tiburon mariposa lily (<i>Calochortus tiburonensis</i>), Metcalf Canyon jewelflower (<i>Streptanthus albidus</i> ssp. <i>albidus</i>), Pennell's bird's-beak (<i>Cordylanthus tenuis</i> ssp. <i>capillaris</i>), San Mateo woolly sunflower (<i>Eriophyllum latilobum</i>), Coyote ceanothus (<i>Ceanothus ferrisae</i>), White-rayed pentachaeta (<i>Pentachaeta bellidiflora</i>), Presidio clarkia (<i>Clarkia franciscana</i>), Fountain thistle (<i>Cirsium fontinale</i> var. <i>fontinale</i>), Tiburon paintbrush (<i>Castilleja affinis</i> ssp. <i>neglecta</i>), Marin dwarf-flax (<i>Hesperolinon congestum</i>), Tiburon jewelflower (<i>Streptanthus niger</i>), San Mateo thormmint (<i>Acanthomintha obovata</i> ssp. <i>duttonii</i>), Santa Clara Valley dudleya (<i>Dudleya setchellii</i>)	2	1.2.3	Encourage and assist counties and landowners to develop and implement Habitat Conservation plans	Ongoing Current	FY 1995 - FY 1999		San Mateo County, California, Stanislaus County, California, Marin County, California, San Francisco County, California, Santa Clara County, California, Contra Costa County, California, Alameda County, California, Sonoma County, California, U.S. Fish and Wildlife Service, California Department of Fish and Game, Private landowners	Management: Planning	Internal Technical Assistance	Santa Clara County is developing a HCP.

Species	Action Priority #	Action #	Action Description	Action Status	Est. Initiation Date	Est. Completion Date	Responsible Parties	Work Type	Labor Type	Action Comments
Bay checkerspot butterfly (Euphydryas editha bayensis), Metcalf Canyon jewelflower (Streptanthus albidus ssp. albidus), Coyote ceanothus (Ceanothus ferrisiae), Tiburon paintbrush (Castilleja affinis ssp. neglecta), Santa Clara Valley dudleya (Dudleya setchellii)	1	2.1.20	Secure and protect serpentine habitat in Kirby area (S. of Metcalf Rd.) (Santa Clara County) for multiple species	Ongoing Current	FY 1995 - FY 1999		City of San Jose, California, Santa Clara County, California, U.S. Fish and Wildlife Service, California Department of Fish and Game, Private landowners	Acquisition: Other	Internal Field Assistance	
Tiburon paintbrush (Castilleja affinis ssp. neglecta), Marin dwarf-flax (Hesperolinon congestum)	1	2.1.3	Secure and protect serpentine habitat in Golden Gate National Recreation Area for multiple species	Ongoing Not Current	FY 1995 - FY 1999		National Park Service, U.S. Fish and Wildlife Service	Acquisition: Management Agreement	Internal Field Assistance	
Tiburon paintbrush (Castilleja affinis ssp. neglecta), Marin dwarf-flax (Hesperolinon congestum), Tiburon jewelflower (Streptanthus niger)	1	2.1.5	Secure and protect serpentine habitat on Tiburon Peninsula Middle Ridge (Marin County) for multiple species	Not Started			City of Tiburon, California, Marin County, California, U.S. Fish and Wildlife Service, California Department of Fish and Game	Acquisition: Easement	Internal Field Assistance	
Tiburon mariposa lily (Calochortus tiburonensis), Tiburon paintbrush (Castilleja affinis ssp. neglecta), Marin dwarf-flax (Hesperolinon congestum)	1	2.1.6	Secure and protect serpentine habitat on Ring Mountain (Marin County) for multiple species	Not Started			Marin County, California, U.S. Fish and Wildlife Service, California Department of Fish and Game	Acquisition: Easement	Internal Field Assistance	
Tiburon paintbrush (Castilleja affinis ssp. neglecta), Marin dwarf-flax (Hesperolinon congestum), Tiburon jewelflower (Streptanthus niger)	1	2.1.7	Secure and protect serpentine habitat in St. Hilary's area (including Harroman Property) for multiple species	Not Started			Tiburon Landmark Society, Marin County, California, U.S. Fish and Wildlife Service, California Department of Fish and Game	Acquisition: Easement	Internal Field Assistance	

Species	Action Priority #	Action #	Action Description	Action Status	Est. Initiation Date	Est. Completion Date	Responsible Parties	Work Type	Labor Type	Action Comments
Bay checkerspot butterfly (Euphydryas editha bayensis), Tiburon mariposa lily (Calochortus tiburonensis), Pennell's bird's-beak (Cordylanthus tenuis ssp. capillaris), Coyote ceanothus (Ceanothus ferrisiae), Presidio clarkia (Clarkia franciscana), Fountain thistle (Cirsium fontinale var. fontinale), Tiburon paintbrush (Castilleja affinis ssp. neglecta), Santa Clara Valley dudleya (Dudleya setchellii)	2	2.2.28	Secure and protect serpentine habitat Northwest of Healdsburg (Sonoma County) for Arctosaphylos bakeri ssp. Bakeri	Not Started			Sonoma County, California, U.S. Fish and Wildlife Service, California Department of Fish and Game	Acquisition: Easement	Internal Field Assistance	

Species	Action Priority #	Action #	Action Description	Action Status	Est. Initiation Date	Est. Completion Date	Responsible Parties	Work Type	Labor Type	Action Comments
Bay checkerspot butterfly (<i>Euphydryas editha bayensis</i>), Tiburon mariposa lily (<i>Calochortus tiburonensis</i>), Metcalf Canyon jewelflower (<i>Streptanthus albidus</i> ssp. <i>albidus</i>), Pennell's bird's-beak (<i>Cordylanthus tenuis</i> ssp. <i>capillaris</i>), San Mateo woolly sunflower (<i>Eriophyllum latilobum</i>), Coyote ceanothus (<i>Ceanothus ferrisiae</i>), White-rayed pentachaeta (<i>Pentachaeta bellidiflora</i>), Presidio clarkia (<i>Clarkia franciscana</i>), Fountain thistle (<i>Cirsium fontinale</i> var. <i>fontinale</i>), Tiburon paintbrush (<i>Castilleja affinis</i> ssp. <i>neglecta</i>), Marin dwarf-flax (<i>Hesperolinon congestum</i>), Tiburon jewelflower (<i>Streptanthus niger</i>), San Mateo thormmint (<i>Acanthomintha obovata</i> ssp. <i>duttonii</i>), Santa Clara Valley dudleya (<i>Dudleya setchellii</i>)	1	3.1	Develop and implement appropriate management actions at multiple sites, for multiple species	Ongoing Current	FY 1995 - FY 1999		California Department of Parks and Recreation, California Department of Transportation, City of San Jose, California, City of Tiburon, California, East Bay Regional Park District, Marin County Open Space District, Marin Municipal Water District, Midpeninsula Regional Open Space District, Rancho Santa Ana Botanic Garden, San Francisco Water Department, Tiburon Landmark Society, University of California at Berkeley, San Mateo County, California, Stanislaus County, California, Marin County, California, San Francisco County, California, Santa Clara County, California, Contra Costa County, California, Alameda County, California, Sonoma County, California, National Park Service, U.S. Fish and Wildlife Service, California Department of Fish and Game, Private landowners	Management: General	Internal Field Assistance	Staff from Creekside Center for Earth Observation working with Santa Clara Open Space Authority to develop new monitoring protocol for <i>Dudleya setchellii</i> . Invasive plants are being removed from <i>Cirsium fontinale</i> var. <i>fontinale</i> populations at Stulsaft Park and CalTrans property near Woodside Glens.

Species	Action Priority #	Action #	Action Description	Action Status	Est. Initiation Date	Est. Completion Date	Responsible Parties	Work Type	Labor Type	Action Comments
Bay checkerspot butterfly (Euphydryas editha bayensis), Tiburon mariposa lily (Calochortus tiburonensis), Metcalf Canyon jewelflower (Streptanthus albidus ssp. albidus), Pennell's bird's-beak (Cordylanthus tenuis ssp. capillaris), San Mateo woolly sunflower (Eriophyllum latilobum), Coyote ceanothus (Ceanothus ferrissae), White-rayed pentachaeta (Pentachaeta bellidiflora), Presidio clarkia (Clarkia franciscana), Fountain thistle (Cirsium fontinale var. fontinale), Tiburon paintbrush (Castilleja affinis ssp. neglecta), Marin dwarf-flax (Hesperolinon congestum), Tiburon jewelflower (Streptanthus niger), San Mateo thormmint (Acanthomintha obovata ssp. duttonii), Santa Clara Valley dudleya (Dudleya setchellii)	2	4.1	Establish a survey program and protocol for all species covered in the plan	Ongoing Current	FY 2007		California Department of Parks and Recreation, California Department of Transportation, City of San Jose, California, City of Tiburon, California, East Bay Regional Park District, Marin County Open Space District, Marin Municipal Water District, Midpeninsula Regional Open Space District, Rancho Santa Ana Botanic Garden, San Francisco Water Department, Tiburon Landmark Society, University of California at Berkeley, San Mateo County, California, Stanislaus County, California, Marin County, California, San Francisco County, California, Santa Clara County, California, Contra Costa County, California, Alameda County, California, Sonoma County, California, National Park Service, U.S. Fish and Wildlife Service, California Department of Fish and Game, Private landowners	Research: Population Surveys	Graduate Student	Monitoring protocol has been established at SF Presidio by GGNRA for Clarkia franciscana and Lessingia germanorum
Tiburon paintbrush (Castilleja affinis ssp. neglecta), Marin dwarf-flax (Hesperolinon congestum)	2	4.2.11	Conduct surveys in historic and potential habitat at Golden Gate National Recreation Area (Marin County) for multiple species	Ongoing Current	FY 1995 - FY 1999		National Park Service, U.S. Fish and Wildlife Service, California Department of Fish and Game	Research: Population Surveys	Graduate Student	Some monitoring occurs under Recovery Permit

Species	Action Priority #	Action #	Action Description	Action Status	Est. Initiation Date	Est. Completion Date	Responsible Parties	Work Type	Labor Type	Action Comments
Tiburon mariposa lily (<i>Calochortus tiburonensis</i>), Tiburon paintbrush (<i>Castilleja affinis</i> ssp. <i>neglecta</i>), Marin dwarf-flax (<i>Hesperolinon congestum</i>), Tiburon jewelflower (<i>Streptanthus niger</i>)	2	4.2.18	Conduct surveys in historic and potential habitat on Tiburon Peninsula (Marin County) for multiple species	Not Started			City of Tiburon, California, Marin County, California, U.S. Fish and Wildlife Service, California Department of Fish and Game	Research: Population Surveys	Graduate Student	
Metcalf Canyon jewelflower (<i>Streptanthus albidus</i> ssp. <i>albidus</i>), Coyote ceanothus (<i>Ceanothus ferrisiae</i>), Tiburon paintbrush (<i>Castilleja affinis</i> ssp. <i>neglecta</i>), Santa Clara Valley dudleya (<i>Dudleya setchellii</i>)	1	4.2.33	Survey historic and potential habitat at Coyote Ridge area (Santa Clara county) for multiple species	Partially Complete	FY 2005		Santa Clara County, California, U.S. Fish and Wildlife Service, California Department of Fish and Game, Private landowners	Research: Population Surveys	Graduate Student	<p>2005-Transition Zone between S. Albidus and Albidus and S. Albidus peramoenus mapped.</p> <p>2005-2006- Comprehensive mapping of Dudleya on selected mitigation parcels (100oc) completed-more mapping planned elsewhere.</p> <p>2006-C. Affinis neglecta pops mapped in detail. 135 plants at southern pop, about 1000 plants in northern canyon on 0.25 ac.</p> <p>Annual survey of Bay Area Checkerspot Butterfly. Conducted at UTC, Kirby Canyon, and Young Ranch.</p>
Tiburon paintbrush (<i>Castilleja affinis</i> ssp. <i>neglecta</i>)	2	4.2.35	Conduct surveys in historic and potential habitat in Henry Coe State Park (Santa Clara County) for multiple species	Not Started			California Department of Parks and Recreation, U.S. Fish and Wildlife Service, California Department of Fish and Game	Research: Population Surveys	Graduate Student	Finite area of serpentine to be searched

Species	Action Priority #	Action #	Action Description	Action Status	Est. Initiation Date	Est. Completion Date	Responsible Parties	Work Type	Labor Type	Action Comments
Coyote ceanothus (Ceanothus ferrisiae), Tiburon paintbrush (Castilleja affinis ssp. neglecta), Santa Clara Valley dudleya (Dudleya setchellii)	2	4.2.38	Conduct surveys in historic and potential habitat North of Llagas Avenue (Santa Clara County) for multiple species	Not Started			Santa Clara County, California, U.S. Fish and Wildlife Service, California Department of Fish and Game	Research: Population Surveys	Graduate Student	
Tiburon paintbrush (Castilleja affinis ssp. neglecta), Santa Clara Valley dudleya (Dudleya setchellii)	2	4.2.40	Conduct surveys in historic and potential habitat in Palm Avenue / Kalana Hills area (Santa Clara County) for multiple species	Not Started			Santa Clara County, California, U.S. Fish and Wildlife Service, California Department of Fish and Game	Research: Population Surveys	Graduate Student	
Tiburon paintbrush (Castilleja affinis ssp. neglecta), Tiburon jewelflower (Streptanthus niger)	2	5.11	Conduct necessary research at Middle Ridge, Tiburon Peninsula (Marin county) for multiple species	Not Started			City of Tiburon, California, Marin County, California, U.S. Fish and Wildlife Service, California Department of Fish and Game	Research: Management Techniques	Graduate Student	
Tiburon mariposa lily (Calochortus tiburonensis), Tiburon paintbrush (Castilleja affinis ssp. neglecta), Marin dwarf-flax (Hesperolinon congestum)	1	5.12	Conduct necessary research at Ring Mountain (Marin County) for multiple species	Not Started			Marin County, California, U.S. Fish and Wildlife Service, California Department of Fish and Game	Research: Management Techniques	Graduate Student	
Tiburon paintbrush (Castilleja affinis ssp. neglecta), Marin dwarf-flax (Hesperolinon congestum), Tiburon jewelflower (Streptanthus niger)	2	5.13	Conduct necessary research at St. Hilary's area (includes Harroman Property), Tiburon Peninsula (Marin County) for multiple species	Not Started			City of Tiburon, California, Marin County, California, U.S. Fish and Wildlife Service, California Department of Fish and Game	Research: Demographic Studies	Graduate Student	
Tiburon paintbrush (Castilleja affinis ssp. neglecta)	3	5.14	Conduct necessary research at American Canyon (Napa County) for Castilleja affinis neglecta	Not Started			U.S. Fish and Wildlife Service, California Department of Fish and Game	Research: Demographic Studies	Graduate Student	

Species	Action Priority #	Action #	Action Description	Action Status	Est. Initiation Date	Est. Completion Date	Responsible Parties	Work Type	Labor Type	Action Comments
Bay checkerspot butterfly (Euphydryas editha bayensis), Metcalf Canyon jewelflower (Streptanthus albidus ssp. albidus), Coyote ceanothus (Ceanothus ferrisiae), Fountain thistle (Cirsium fontinale var. fontinale), Tiburon paintbrush (Castilleja affinis ssp. neglecta), Santa Clara Valley dudleya (Dudleya setchellii)	1	5.24	Conduct research on vegetation management methods in selected areas county-wide (Santa Clara County) for multiple species	Ongoing Current	FY 2000 - FY 2004		Santa Clara County, California, U.S. Fish and Wildlife Service, California Department of Fish and Game	Research: Habitat Requirements	Graduate Student	
Bay checkerspot butterfly (Euphydryas editha bayensis), Metcalf Canyon jewelflower (Streptanthus albidus ssp. albidus), Coyote ceanothus (Ceanothus ferrisiae), Fountain thistle (Cirsium fontinale var. fontinale), Tiburon paintbrush (Castilleja affinis ssp. neglecta), Santa Clara Valley dudleya (Dudleya setchellii)	1	5.25	Conduct surveys in historic and potential habitat near Niles (alameda County) for Streptanthus albidus peramoenus	Not Started			U.S. Fish and Wildlife Service	Research: Habitat Status	Graduate Student	

Species	Action Priority #	Action #	Action Description	Action Status	Est. Initiation Date	Est. Completion Date	Responsible Parties	Work Type	Labor Type	Action Comments
Bay checkerspot butterfly (<i>Euphydryas editha bayensis</i>), Metcalf Canyon jewelflower (<i>Streptanthus albidus</i> ssp. <i>albidus</i>), Coyote ceanothus (<i>Ceanothus ferrisiae</i>), Fountain thistle (<i>Cirsium fontinale</i> var. <i>fontinale</i>), Tiburon paintbrush (<i>Castilleja affinis</i> ssp. <i>neglecta</i>), San Mateo thornmint (<i>Acanthomintha obovata</i> ssp. <i>duttonii</i>), Santa Clara Valley dudleya (<i>Dudleya setchellii</i>)	2	5.26	Conduct necessary research at selected areas county-wide in Santa Clara County on restoring native habitats on serpentine and non-serpentine soils (multiple species)	Not Started			Santa Clara County, California, U.S. Fish and Wildlife Service, California Department of Fish and Game	Research: Habitat Requirements	Graduate Student	
Tiburon paintbrush (<i>Castilleja affinis</i> ssp. <i>neglecta</i>), Marin dwarf-flax (<i>Hesperolinon congestum</i>)	2	5.8	Conduct necessary research at Golden Gate National Recreation Area (Marin County) for multiple species	Not Started			National Park Service, U.S. Fish and Wildlife Service, California Department of Fish and Game	Research: Management Techniques	Graduate Student	